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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,877	06/25/2003	Fred R. Wolf	P08096US00 - PHI 1437	5242

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EXAMINER	
AHMED, HASAN SYED	

ART UNIT	PAPER NUMBER
1615	

NOTIFICATION DATE	DELIVERY MODE
05/07/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patatty@ipmvs.com

Office Action Summary	Application No.	Applicant(s)	
	10/606,877	WOLF ET AL.	
	Examiner	Art Unit	
	HASAN S. AHMED	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,12-16,20,21 and 27-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,12-16,20,21, and 27-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

- Receipt is acknowledged of applicants' (a) appeal brief, filed on 26 May 2009; and, (b) response to non-compliant appeal brief, filed on 29 January 2010.
- After further consideration, finality of the Office action mailed on 6 January 2009 is hereby withdrawn.
- Applicants' arguments have been considered but are moot in view of the new ground of rejection.

* * * * *

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 12-16, 20, 21, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,244,877 ("Eenennaam") in view of U.S. 2002/0151733 ("Ulrich"), further in view of U.S. 2002/0108148 ("Boronat") (the later two references are currently of-record).

Independent claim 1 recites a method of improving the tissue quality of an animal, comprising feeding the animal a diet comprising at least 150 ppm mixed tocotrienols.

Independent claim 20 recites a method of improving the tissue quality of an animal, comprising feeding the animal a diet comprising 50 ppm to 500 ppm mixed tocotrienols.

Eenennaam teaches methods for the production of transgenic plants (*see* abstract). The disclosed transgenic plants may be processed to produce a feed, meal protein, or oil preparation designed for ruminant animals (see, e.g., col. 6, lines 48-67), reading on the diet of claim 1, and the animals (i.e., ruminant animals, see col. 34, line 30) of claims 12 and 13 (since cattle are ruminant animals). While the prior art reference does not explicitly teach a feeding step, it would be obvious to a person of ordinary skill in the art to feed a ruminant animal a feed, meal, protein, or oil preparation which is designed for ruminant animals; Eenennam states, "[i]n a preferred embodiment the feed, meal, protein or oil preparation is designed for ruminant animals." See col. 34, lines 29-30.

Regarding the mixed tocotrienols of claims 1 and 20, Eenennaam teaches that one or more products of the tocopherol biosynthesis pathway, including any one or more of tocotrienols, alpha-tocotrienols, gamma-tocotrienols, delta-tocotrienols, and beta-tocotrienols are increased throughout an organism such as a plant, preferably in a seed (see col. 22, lines 52-56).

Eenennaam teaches genetically modifying plants to increase levels of tocotrienols such as alpha-tocotrienols, gamma-tocotrienols, delta-tocotrienols, and beta-tocotrienols, reading on claims 14 and 27 (see col. 13, lines 29-56; col. 22, lines 52-56, col. 38, line 60-col. 39, line 6; examples 1, 3, 4; and claims 17, 19, 28, 31, and

21). An example of a genetically modified cereal grain crop disclosed by Eenennaam is corn, reading on claims 15 and 28 (see col. 13, lines 29-56; col. 22, lines 52-56, col. 38, line 60-col. 39, line 6; examples 1, 3, 4; and claims 17, 19, 28, 31, and 21). Eenennaam further teaches oil derived from a seed of the disclosed transformed plant (see col. 6, lines 48-54).

Eenennaam explains that the disclosed invention is beneficial because, "[t]here is a...need for transgenic organisms expressing...nucleic acid molecules involved in tocopherol biosynthesis, which are capable of nutritionally enhancing food and feed sources." See col. 4, lines 28-32.

The improved tissue quality of instant claims 1 and 20 and oxidative stability of instant claims 2 and 21 are inherent features of tocotrienols as shown by Boronat (see [0005]).

Eenennaam differs from the instant application in that it does not explicitly disclose the at least 150 ppm mixed tocotrienol concentration of instant claim 1 and the 50 ppm to 500 ppm tocotrienol concentration range of instant claims 20, 27, and 29. It is noted that claims 1, 20, 27, and 29 do not recite amounts of specific tocotrienols, only a concentration range of mixed tocotrienols. Ulrich shows that yellow corn oil contains 231 ppm of alpha-tocotrienol, 23 ppm of beta-tocotrienol, 1463 ppm of gamma-tocotrienol, and 63 ppm of delta-tocotrienol (see Table 3). In one embodiment, Eenennaam teaches a 10% increase in tocotrienols with the disclosed transformed plant (see col. 22, line 54). A 10% increase of 231 ppm of alpha-tocotrienol, 23 ppm of beta-tocotrienol, and 63 ppm of delta-tocotrienol would result in a mixed tocotrienol

concentration above the 150 ppm of instant claim 1 and overlapping with the 50 ppm to 500 ppm range of claims 20, 27, and 29. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to disclose a method of improving the tissue quality of an animal, comprising feeding the animal a diet of at least 150 ppm mixed tocotrienols, or 50 ppm to 500 ppm mixed tocotrienols, as taught by Eenennaam in view of Ulrich. One of ordinary skill in the art at the time the invention was made would have been motivated to use such a method because a diet comprising elevated tocotrienols results in nutritionally enhanced food and feed sources, as explained by Eenennaam (see above).

* * * * *

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1, 2, 12-16, 20, 21, and 27-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-27 of copending Application No. 11/153,463 ('463). Although the conflicting claims are not identical, they are not patentably distinct from each other because '463 claims a method of improving the tissue quality of an animal, including ruminant animals, using mixed tocotrienols. *See* claims 1, 12, and 19.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

*

2. Claims 1, 2, 12-16, 20, 21, and 27-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 11/530,075 ('075). Although the conflicting claims are not identical, they are not patentably distinct from each other because '075 claims a method of improving the tissue quality of an animal, including ruminant animals, using mixed tocotrienols. *See* claims 1, 10, and 13.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

* * * * *

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Lanari, M. C., et al., *Effect of Dietary tocopherols and tocotrienols on the antioxidant status and lipid stability of chicken*, MEAT SCIENCE, vol. 68, pages 155-162 (2004).
- Kang, Kyung R, et al., *Tocopherols, retinol and carotenes in chicken egg and tissues as influenced by dietary palm oil*, JOURNAL OF FOOD SCIENCE, vol. 63, no. 4, pages 592-596 (1998).
- U.S. Patent Nos. 6,610,867; 6,740,508; and 5,821,264.

*

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HASAN S. AHMED whose telephone number is (571)272-4792. The examiner can normally be reached on 9am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Wax can be reached on (571)272-0623. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

/H. S. A./
Examiner, Art Unit 1615

/Robert A. Wax/
Supervisory Patent Examiner, Art Unit 1615